



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re: Patent Application of

LOONJENS ET AL

Atty Ref: **4662-289**

Serial No. 10/505,155

Group: **1711**

Filed: February 28, 2005

Examiner: **Gillespie, Benjamin**

**For: PROCESS FOR PREPARING A HIGH-MOLECULAR WEIGHT POLYAMIDE,
POLYESTER, COPOLYESTER, COPOLYAMIDE OR POLYESTERAMIDE BLOCK
COPOLYMER**

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Commissioner for Patents
P.O.Box 1450
Alexandria, VA 22313-1450

Statutory Declaration

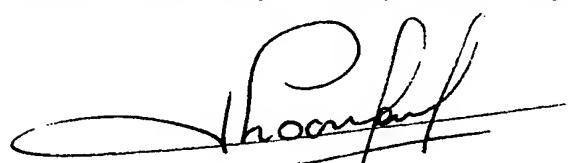
Sir:

I hereby declare that:

1. I am Antonius Jacobus Loontjens of Synagogeplantsoen 76, 6231 KK Meerssen, the Netherlands.
2. I am a citizen of the Netherlands.
3. I am employed by DSM in the position of principal scientist.
4. Next to my position at DSM I am part time professor at the university of Groningen, in the Netherlands. I am co-author of more than 50 scientific publications and co-author of more than 60 patents. I am board member of the section macromolecules of the Royal Dutch Chemical Society, and member of the industrial advisory board of NanoNed, a large governmental subsidized academic project on nanotechnology. I am member of the editorial board of the journal Designed Monomers and Polymers.
5. I attach my curriculum vitae, **Exhibit AJL-1**.
6. I attach a list of my publications **Exhibit AJL-2**.
7. I consider that I have an excellent understanding of what constitutes the state of common general knowledge and the state of the art in the field of polymer chemistry.
8. I am a co-inventor of US patent application 10/505,155 entitled "Process for preparing a high molecular weight polyamide, polyester, copolyester, copolyamide, or polyesteramide block copolymer."
9. I have read US Patent No. 4,672,094.

10. US Patent No. 4,672,094 relates a process for increasing the molecular weights of thermoplastic polyamides and polyesteramides by the reaction of an organic diisocyanate and a dicarboxyl acid end groups.
11. I have compared amended claim 1 of US patent application 10/505,155 submitted to the USPTO on 23 October 2006 to the disclosures of US Patent No. 4,672,094 and make the following comments.
12. Blocked isocyanates react fast with hydroxyl and amino groups.
13. This is a great advantage since the reaction should take place in an extruder, preferably in less than 5 minutes or even shorter. In the case with hydroxyl and amino groups the reaction is completed at the processing temperature of most polymers.
14. Suitable polymers are polyesters and polyamides. They comprise, next to hydroxyl or amino groups, often carboxylic acid groups. Fortunately, carboxylic acid groups react much slower with isocyanates than hydroxyl or amino groups. The reaction of carboxylic acids with isocyanates is undesired since carbon dioxide is formed as a side product during this reaction. Gaseous compounds in an extruder can give rise to gas bubbles in the pellets, or even foaming, which highly undesired.
15. Thus carboxylic groups are present in most polycondensates, but certainly are not necessary, and are even undesired due to the resultant gaseous compounds which are produced therefrom.
16. Thus, the advantages of the present invention stem from the hydroxyl or amino end groups and not any carboxylic acid groups which may also be present.
17. I consider that a person of ordinary skill in the art would clearly recognize the distinction between the present invention and US Patent No. 4,672,094. Moreover, they would recognize the advantages of the present invention over the prior art.
18. I declare further that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Signature



Jacobus Antonius Loontjens

Date signed

April 4, 2007